



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/517,186	03/02/2000	Hisao Takemura	04284.0830	4671

22852 7590 09/25/2003

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP
1300 I STREET, NW
WASHINGTON, DC 20005

EXAMINER

LELE, TANMAY S

ART UNIT

PAPER NUMBER

2684

DATE MAILED: 09/25/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.

17

Office Action Summary

Application No.

09/517,186

Applicant(s)

TAKEMURA, HISAO

Examiner

Tanmay S Lele

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8,9 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8,9 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11 September 2003 has been entered.

Response to Arguments

2. Applicant's arguments filed for claims 8, 9, and 11 have been fully considered but they are not persuasive.

3. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "Rostoker et al. does not disclose that the antennas are located at a position in the IC chip relatively different from each other when a plurality of IC chips is stacked, as claimed" and "relatively different from one another" having to specifically be non-concentric) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Regarding claims 8, 9, and 11, Applicant attempts to overcome the rejection by stating, "Rostoker et al. does not disclose that the antennas are located at a position in the IC chip

Art Unit: 2684

relatively different from each other when a plurality of IC chips is stacked, as claimed.” Note that the concept of an IC was not claimed as filed and hence not considered. Hence Examiner is persuaded by Applicant’s argument that the reference does not teach or recite the claimed.

Applicant further attempts to overcome the rejection by stating, “another embodiment disclosed by Rostoker et al. shows that multiple antennas may be disposed in two different vertical planes on a single IC chip (col. 10, lines 9-15; FIGS. 7A and 7B). These antennas, however, are concentric with each other (FIGS. 7A and 7B; col. 10, lines 36-46). As such, this embodiment of Rostoker et al. does not disclose that the antennas are located at a position in a device relatively different from each other when a plurality devices is stacked as claimed.” Note that the fact that the two antennas, when stacked, are required to be non-concentric to be “different from each other when staked” was not claimed. Note further that, as stated in the passage from the Applicant (column 10, lines 36 – 46), Rostoker states, in column 10, lines 43 – 46, “...antenna 704 could be directly under peripheral bond pads, and the antenna 724 could be formed within a central area...” which meets the claimed, “relatively different from each other when stacked.” Therefore, because the Examiner is required to interpret the claims in the broadest reasonable manner under current examining practice, the Examiner is not persuaded by the Applicant’s arguments suggesting that the Rostoker reference does not teach or recite the claimed, as broadly interpreted.

Applicant further attempts to overcome the rejection by stating, “...there is no suggestion or motivation in any of the references to position the stacked antennas so that they are not concentric with each other.” As stated above, no requirement is claimed for the stacked antennas having to be non-concentric to be “relatively different from each other,” and thus such a concept

Art Unit: 2684

was not examined. As pictured (in Figure 7A and 7B) and stated in the above cited passage (column 10, lines 43 – 46) the antennas are relatively different from one another, in both layer and position. Therefore, because the Examiner is required to interpret the claims in the broadest reasonable manner under current examining practice, the Examiner is not persuaded by the Applicant's arguments suggesting that the Rostoker reference does not teach or recite the claimed, as broadly interpreted.

4. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding claims 8, 9, and 11, Applicant attempts to overcome the rejection by stating, “[Rostoker et al.] ... does not disclose that antennas are located at a position in the IC chip relatively different from each other when a plurality of IC chips is stacked as claimed.” As stated in previous Office Actions (paper numbers 4 and 7), Rostoker was introduced to teach of antennas that be fabricated within a structure (as cited in the motivation, “Rostoker's antenna system...”) As stated in the previous Office Actions (papers number 4 and 7) in the cited sections, Rostoker teaches the claimed, “each coil antenna is located at a position in the device relatively different from each other when a plurality of devices is stacked,” where, when combined for the motivation as cited in the previous Office Actions, with Kelley and Yap, teach the entire recited claim. Note that Rostoker's teaching, as cited in the previous Office Actions, is not of stacking IC's, but of an each antenna being disposed in different portions and layers, as taught by Rostoker. Note that Rostoker's cited passages from the previous Office Actions detail

Art Unit: 2684

this concept and further clarification of portions and layers is noted in the summary of invention (column 3, lines 65 and 66). Applicant further states no motivation has been stated. Note that a motivation for all such combinations has been made (as seen in previous Office Actions, papers number 4 and 7; paper number 7, page 3 – 5 as an example). Hence, for all the above reasons, the Examiner is not persuaded by the Applicant's argument that the references do not teach, recite, or suggest, the features disclosed when viewed as whole.

Applicant further attempts to overcome the rejection by stating, "...the Examiner, however, seems to ignore that one embodiment shows that antennas can be disposed in different portions, and a completely separate embodiment shows that two antennas can be disposed in different vertical planes," and further, "the Examiner points to the concept of disposing antennas in different portions but does not provide a motivation as to why one of ordinary skill in the art would take this concept and apply it to the aforementioned separate embodiment of Rostoker et al." The motivation for the combination of different embodiments was present in Rostoker in cited passages from the previous Office Action (paper number 7, page 3), specifically in column 10, lines 2 – 9, "...transmitting and reception strength of a loop-type antenna is proportional to the number of turns and the area of loop." By placing the antennas on different levels, both the number of turns and the area of loop would increase (due to the gained area from the antenna now disposed on a different level) and thus a loop antenna, as seen in Figure 6, would have better performance for both transmission and reception and thus both embodiments and cited passages were noted. Hence, for all the above reasons, the Examiner is not persuaded by the Applicant's argument that the references do not teach, recite, or suggest, the features disclosed when viewed as whole.

Applicant further states, "Yap, either alone or in combination with Kelly, do not disclose, teach, or suggest, at least a molded case having a two-dimensional center including the coil antenna, wherein each coil antenna is located at a position in the device relatively different from each other when a plurality of devices is stacked." As no argument has been cited, the Examiner is not persuaded by the Applicant's assertion that the references do not teach, recite, or suggest, the features disclosed when viewed as whole and respectfully requests review of the above comments and the cited motivation in reference to these arguments.

DETAILED ACTION

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly et al (Kelly, US Patent No 6,010,074) in view of Yap et al. (Yap, US Patent No. 6,111,506) and in further view of Rostoker et al. (Rostoker, US Patent No. 6,373,447) and in further view of Farmont (Farmont, US Patent No. 5,498,859).

Regarding claim 8, Kelly teaches of a wireless information storage device, comprising: a coil antenna for transmitting and/or receiving a signal via wireless communication (as seen in Figure 1 and column 4, lines 13 – 15); a memory for storing information (as seen in Figure 2 and column 4, lines 26 – 36); and a control unit that generates information by demodulating a signal

Art Unit: 2684

received via the coil antenna, and generates a signal to be transmitted via the coil antenna by modulating information stored in the memory (as seen in Figure 1 and column 4, lines 13 – 25).

Kelly does not specifically teach of having a two-dimensional center [coil antenna] and a molded case having a two-dimensional center including the coil antenna, wherein each coil antenna is located at a position in the device relatively different from each other when a plurality of devices is stacked and [a coil antenna having a two-dimensional center for transmitting and/or receiving a signal via wireless communication] and a space therein; and [a memory] arranged in the space of the coil antenna for storing information; or the control unit being arranged in the space of the coil antenna.

In a related art dealing with a contact-less card communication unit, Yap teaches of a two-dimensional center [coil antenna] and a molded case having a two-dimensional center including the coil antenna (as seen in Figures 1 – 5 and column 12, lines 59 – 63 and starting column 13 line 64 and ending column 14, line 34).

It would have been obvious to one skilled in the art at the time of invention to have included into Kelly's contact-less data collection system, Yap's antenna structure and position, for the purposes of quickly and securely verifying information for security purposes in a reliable manner without added delay or inconvenience, as taught by Yap.

Kelly in view of Yap still do not teach of each coil antenna is located at a position in the device relatively different from each other when a plurality of devices is stacked and [a coil antenna having a two-dimensional center for transmitting and/or receiving a signal via wireless communication] and a space therein; and [a memory] arranged in the space of the coil antenna for storing information; or the control unit being arranged in the space of the coil antenna.

In a related art dealing with embedded antennas, Rostoker teaches of each coil antenna is located at a position in the device relatively different from each other when a plurality of devices is stacked (as seen in Figures 6 and 7 and starting column 8, line 66 and ending column 9, line 55 and further in column 10, lines 1 – 46).

It would have been obvious to one skilled in the art at the time of invention to have included into Kelly and Yap's contact-less communication device, Rostoker's antenna system, for the purposes of reducing the physical size of the radio system, as taught by Rostoker.

In a related art dealing with card readers, Farmont teaches of [a coil antenna having a two-dimensional center for transmitting and/or receiving a signal via wireless communication] and a space therein (as seen in Figure 1 and column 4, lines 38 – 51 and column 3, lines 36 – 47); and [a memory] arranged in the space of the coil antenna for storing information (as seen in Figure 1 and column 4, lines 38 – 51 and column 3, lines 36 – 47); or the control unit being arranged in the space of the coil antenna (as seen in Figure 1 and column 4, lines 38 – 51 and column 3, lines 36 – 47).

It would have been obvious to one skilled in the art at the time of invention to have included into Kelly, Yap, and Rostoker's card reader, Farmont's positioning inside the antenna, to further utilize wasted space and therefore further decrease the physical size of the reader, as taught by Farmont.

Regarding claim 9, Kelly in view Yap and Rostoker, teach all the claimed limitations as recited in claim 8. Both Farmont and Yap further teach that the position is a place where the two-dimensional center of the coil antenna is off from the two-dimensional center of the molded case (Figures 1 in both Yap and Farmont).

Art Unit: 2684

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly et al. (Kelly, US Patent No 6,010,074) in view of Yap et al. (Yap, US Patent No. 6,111,506) and in further view of Rostoker et al. (Rostoker, US Patent No. 6,373,447).

Regarding claim 11, Kelly teaches of a method for putting a wireless information storage device on or into an item, the device comprising a coil antenna (as seen in Figure 1 and column 4, lines 13 – 25).

Kelly does not specifically teach of a molded case including the coil antenna, having a two-dimensional center including the coil antenna, or of comprising the step of putting the device at a position in the item relatively different from each other when a plurality of item is stacked.

In a related art dealing with a contact-less card communication unit, Yap teaches of a molded case including the coil antenna, having a two-dimensional center including the coil antenna (as seen in Figures 1 – 5 and column 12, lines 59 – 63 and starting column 13 line 64 and ending column 14, line 34).

It would have been obvious to one skilled in the art at the time of invention to have included into Kelly's contact-less data collection system, Yap's antenna structure and position, for the purposes of quickly and securely verifying information for security purposes in a reliable manner without added delay or inconvenience, as taught by Yap.

Kelly in view of Yap still do not teach of comprising the step of putting the device at a position in the item relatively different from each other when a plurality of item is stacked.

In a related art dealing with embedded antennas, Rostoker teaches of comprising the step of putting the device at a position in the item relatively different from each other when a plurality

Art Unit: 2684

of items is stacked (as seen in Figures 6 and 7 and starting column 8, line 66 and ending column 9, line 55 and further in column 10, lines 1 – 46).

It would have been obvious to one skilled in the art at the time of invention to have included into Kelly and Yap's contact-less communication device, Rostoker's antenna system, for the purposes of reducing the physical size of the radio system, as taught by Rostoker.

Citation of Pertinent Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Inventor	Publication	Number	Disclosure
Vega et al.	US Patent	6,265,977	Radio frequency identification tag apparatus and related method
Hayashi et al.	US Patent	6,194,993	Reader and/or writer apparatus, power feeding system, and communication system
Harrison et al.	US Patent	6,176,425	Information management system supporting multiple electronic tags
Chen et al.	US Patent	6,164,241	Multiple coil antenna for inductively-coupled plasma generation systems
Endo et al.	US Patent	6,018,298	Anti-theft tag
McDonough et al.	US Patent	5,920,290	Resonant tag labels and method of making the same
Shima et al.	US Patent	5,808,587	Wireless Access Control System Using Proximity Member and Antenna Equipment Therefor
Fidalgo	US Patent	5,598,032	Hybrid chip card capable of both contact and contact-free operation and having antenna contacts situated in a cavity for an electronic module
Ghaem et al.	US Patent	5,381,137	RF Tagging System and RF Tags and Method


Art Unit: 2684

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanmay S Lele whose telephone number is (703) 305-3462. The examiner can normally be reached on 9 - 6:30 PM Monday – Thursdays and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on (703) 308-7745. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.


Tanmay S Lele
Examiner
Art Unit 2684



tsl
September 14, 2003